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a micro-lens disposed in a window region through which the laser beam is emitted to collimate the laser beam across the entire window region;  
a lens layer formed on the upper reflector with a transparent material transmitting a laser beam, the lens layer comprising the micro-lens;  
an upper electrode formed above the upper reflector excluding the window region; and  
a lower electrode formed underneath the substrate.

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6. (ONCE AMENDED) A micro-lens built-in vertical cavity surface emitting laser (VCSEL) comprising:  
a substrate;  
a lower reflector formed on the substrate;  
an active layer formed on the lower reflector generating light by a recombination of electrons and holes;  
an upper reflector formed on the active layer comprising a lower reflectivity than that of the lower reflector;  
a micro-lens disposed in a window region through which the laser beam is emitted to collimate the laser beam across the entire window region;  
a lens layer formed on the upper reflector with a transparent material transmitting a laser beam, the lens layer comprising the micro-lens;  
an upper electrode formed above the upper reflector excluding the window region; and  
a lower electrode formed underneath the substrate,  
wherein the window region comprises a maximum width smaller than a size of light generated in the active layer emitted towards the window region, satisfying a Fraunhofer diffraction condition, where the Fraunhofer diffraction condition occurring in the window region is offset by a focusing power of the micro-lens.

sub C1  
B3

12. (ONCE AMENDED) A micro-lens built-in vertical cavity surface emitting laser (VCSEL) comprising:  
a micro-lens disposed in a window region through which a laser beam is emitted to collimate the laser beam across the entire window region;  
a substrate comprising a transparent material transmitting the laser beam, the substrate comprising the micro-lens;  
a lower reflector formed on the substrate;  
an active layer formed on the lower reflector, generating light by recombination of

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electrons and holes;

an upper reflector formed on the active layer comprising a higher reflectivity than that of the lower reflector;

an upper electrode formed on the upper reflector; and

a lower electrode formed on a portion of the substrate excluding the window region through which the laser beam is emitted.

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17. (ONCE AMENDED) A micro-lens built-in vertical cavity surface emitting laser (VCSEL) comprising:

a micro-lens disposed in a window region through which a laser beam is emitted to collimate the laser beam across the entire window region;

a substrate comprising a transparent material transmitting the laser beam, the substrate comprising the micro-lens;

a lower reflector formed on the substrate;

an active layer formed on the lower reflector, generating light by recombination of electrons and holes;

an upper reflector formed on the active layer comprising a higher reflectivity than that of the lower reflector;

an upper electrode formed on the upper reflector; and

a lower electrode formed on a portion of the substrate excluding the window region through which the laser beam is emitted,

wherein the window region comprises a maximum width smaller than a size of the light generated in the active layer and emitted towards the window region, satisfying a Fraunhofer diffraction condition, where the Fraunhofer diffraction condition occurring in the window region is offset by a focusing power of the micro-lens.

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23. (TWICE AMENDED) A micro-lens built-in vertical cavity surface emitting laser (VCSEL), comprising:

a micro-lens integrally formed on a laser beam emitting surface of the VCSEL and disposed in a window region through which a light beam is emitted to collimate the light beam across a window region to emit a parallel light beam;

a lens layer comprising the micro-lens and formed on the laser beam emitting surface of the VCSEL; and

an upper electrode formed on a portion of the lens layer excluding the window region.

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